Collaboration for Extreme Scale Science

Draft Minutes of the Organizing Committee Meeting, November 18, 2011

Present

Scott Klasky
Lothar Bauerdick
Eli Dart
Jeff Kantor
Manfred Auer
David Skinner
Al Geist
Michael Ernst
Miron Livny
Ruth Pordes

Progress on WhitePapers

David reported that we have a substantial body of white papers (10 plus several about to be posted). They are not particularly uniform. Eli suggested organizing white papers per breakout areas. David asked if a merge into a single document would be feasible or beneficial. The only possible advantage would be to ease the downloading logistics for people wanting to grab them at the last minute before travel.

Richard asked if anyone had examined the ensemble of whitepapers for coverage and gaps. Al had looked through them, but had not looked at them to find gaps. Homework was suggested of looking critically for major missing areas once the in-transit whitepapers had been posted. Ruth pointed out that it was not easy to find where the whitepapers had been posted (under "Material" as "Papers" and "Slides" on the workshop overview page)

Al noted that some whitepaper-type material had been circulated as the body of email. He volunteered to send the text he had extracted and filed to David.

Richard proposed a due date of the end of November for submitting a whitepaper that people could be expected to read. November 29 was agreed.

"Application Science" Needs and Dreams - Strategy for ensuring that we get this input

Richard said he was concerned to get adequate science input, even though there could be no expectation that scientists could correctly identify all developments that could revolutionize their work.

Scott had also been raising this issue, and had prepared some slides. These had benefitted from a discussion with Ruth. The characteristics of collaboration would be different for science in different categories, for example "Large-Scale Simulation", "Medium-Scale Simulation", "Large-Scale

Experiments", "Medium-Scale Experiments". Scott had characterized the needs of the science that he was involved in, and asked for help in completing the tables in his slides. It was agreed that his would be useful, even if Scott's breakdown may need modifications or additions. Scott's last slide showed a step-by-step timeline of "The month in a life of a simulation scientist".

Miron advised looking at the Earthcube Charrettes. Also the issue of the software environment was missing from Scott's matrix. Scott agreed that his (very rushed) analysis was incomplete and additions were welcome.

Lothar agreed to provide information for the "Large-Scale Experiments".

Scott proposed that the workshop have breakouts according to the science categories.

The issue of making sure that we did not ignore the needs of "Small-Scale Science" was raised.

Jeff Kantor pointed out that it should be possible to map the elements of the technologies diagram to Scotts technology vs science category matrix. Also he thought it would help greatly if the "month in the life" breakdown identified what was hard and where major positive impact was possible. Scott agreed.

Eli liked Scott's general science-driven approach. ESnet had found this type of analysis very valuable. He suggested not fixing the breakdown into science categories too early. First collect requirements, and then try to find the commonalities and differences. Scott said he felt he had probably participated in enough workshops to already have a good idea of an appropriate breakdown.

Richard proposed that Scott's approach be treated as a good start.

Miron asked if the "Organization of a Collaboration" was off-topic. Richard reiterated the workshop goal – to understand the overall landscape of collaboration well enough to guide a CS research program. So, not off-topic, but not a point on which much time should be spent.

Richard noted that we should not allow the reader of our report to believe that we identified only technological barriers (and no sociological barriers) to collaboration.

Review of Workshop Agenda

Richard asked if we should plan a 90 minute examination of the needs of science using something like Scott's breakdown. In this session the aim would be to get the sciences to provide any additional input and then agree that the needs had been captured reasonably correctly. Should this be done in breakout groups?

All agreed that the session was needed and breakout groups would be the way to go. David and Richard were tasked to modify the workshop program.

AOB and Homework

David asked if printouts of our diagrams would be good. Consensus was yes. David will print out large versions.

Following an “Earthcube Charrettes” motivated discussion, Richard described conversations with Rich and others: The workshop must capture the science needs. Ideally it will also recommend a well-defined CS research program, but if some more work is needed after the workshop to get to this goal, that would not be too bad. Miron suggested the path of “Conceptualization Grants”.

Homework:

1. Provide final white papers by November 29
2. Read white papers, identify commonalities and gaps in email to the OC.
3. Science representatives complete “your” column in Scott’s slides 3 and 4, identifying any missing topics/lines in the tables. Also provide a “month in the life of” slide, identifying the areas of pain. Email to the OC. (would be good to have this by 11/26)